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Office of Pollution Prevention and Toxics
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, DC 20460
Attn: 8(e) Submission

contains No CBI

Dear Sir/Madam:

Elf Atochem North America, Inc. (Elf Atochem) is submitting technical summaries on two acute toxicity studies in *Daphnia magna* to the Environmental Protection Agency (EPA) pursuant to the Toxic Substances Control Act (TSCA) Section 8(e). One summary provides information on TPS 32 which consists of di-tert-dodecylpolysulfides (CAS No. 68425-15-0). The other summary provides information on isooctyl thioglycolate (CAS No. 25103-09-7). The summaries do not involve effects in humans.

Nothing in this letter or the attached technical summaries is considered confidential business information of Elf Atochem.

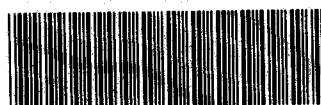
In the study with TPS 32, the 48-hour EC_{50} to *Daphnia* was between nominal concentrations of 1 and 10 mg/l (analytical concentrations of 0.04 and 0.31 mg/l) while, for isooctyl thioglycolate the 48-hour EC_{50} to *Daphnia* was 0.39 mg/l.

Further questions regarding this submission may be directed to me at (215) 419-5890.

Best Regards,

Debra Randall

Debra Randall, DABT
Product Safety Manager



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EPA/PP/TSCA
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TECHNICAL SUMMARY

The acute toxicity (inhibition of mobility) of TPS 32 for *Daphnia magna* was assessed according to the method C2 of the European Directive 92/69 CEE. The study was carried out in compliance with the Principles of OECD Good Laboratory Practices.

The test was performed with 20 daphnids per concentration using closed flasks as test glassware. In order to avoid volatilisation of TPS 32 flasks were entirely filled with test solutions and closed with butyl rubber caps covered with PTFE.

For each exposure concentration, the percentage of immobilisation at 24 hours and 48 hours was recorded. The test concentrations of TPS 32 were measured by liquid chromatography according to the analytical method described in the attached report.

The percentage of immobilisation are presented in the following table for each of the 3 tested concentrations :

Mesured concentration (mg/l)		% of immobilisation	
Initial (T ₀)	Final (T ₄₈)	Initial (T ₀)	Final (T ₄₈)
1.9	NA	5	100
0.31	NA	0	85
ND	NA	0	0

ND : not detected since concentration is below the detection limit of 0.04 mg/l.

NA : non analyzed concentration.

At the nominal concentration of 10 mg/l, corresponding to a measured concentration of 0.31 mg/l, 85 % of daphnids were immobilised. Visual observations on the test solutions at nominal concentrations of 10 and 100 mg/l showed (cf. § 5.3.1) that the solubility limit of TPS 32 is probably lower than 0.31 mg/l. Therefore, the toxic effect of 85 % may result from micro drops of non solubilized test substance.

At the nominal concentration of 1 mg/l, no toxicity was recorded and TPS 32 was not quantified since its concentration was below the detection limit of the analytical method i.e. 0.04 mg/l.

In accordance with the study Monitor, no analyse was performed at the end of the test. Thus the quality criteria related to the stability of the substance all along the test duration has not been checked. Therefore, results of this study should be interpreted with caution.

TECHNICAL SUMMARY

The acute toxicity (inhibition of mobility) of ISOOCTYL THIOGLYCOLATE (THIOGLYCOLATE D'ISOOCTYLE) for *Daphnia magna* was assessed according to the method C2 of the European Directive 92/69/CEE. The study was carried out in compliance with the Principles of OECD Good Laboratory Practices.

Daphnids were exposed in a static test to a concentration range of 0,4 to 100 % vol. forming a geometric progression with a factor of 2,2. The test was performed with 5 daphnids per vessel and 20 daphnids per concentration. Since ISOOCTYL THIOGLYCOLATE is volatile, the test was performed using closed flasks as test glassware. In order to avoid volatilisation of ISOOCTYL THIOGLYCOLATE flasks were entirely filled with test solutions.

For each exposure concentration, the percentage of immobilisation at 24 hours and 48 hours was recorded. The test concentrations of ISOOCTYL THIOGLYCOLATE were measured by gas chromatography according to the analytical method described in the attached report. EC_{50} -24h and EC_{50} -48h were calculated with nominal concentrations by regression analysis using the Probit/log model.

The method was applied with respect to its quality criteria :

- Immobilisation in the control did not exceed 10 % at the end of the test ;
- Concentration of dissolved oxygen in the test vessels remained above 2 mg/l at the end of the test and pH did not varied by more than 1 unit ;

The test substance concentrations were not maintained within 80 % of the initial concentration throughout the duration of the test despite the experimental precautions used for keeping stable the test substance concentrations. At the higher test concentration, only 26 % of the initial test substance were recovered at the end of the test. However, since the test solution analyses were not carried out at the same day than the sampling day (but after 2 days for the set at time 0 and after 4 days for the set at time 48 hours), it was not possible to exactly quantify the degradation of the test substance at the end of the test period.

The EC_{50} were calculated using nominal concentrations. The results are :

The EC_{50} -24h was calculated to be 0,73 mg/l with 95 % confident interval ranging from 0,63 to 0,85 mg/l.

The EC_{50} -48h was calculated to be 0,39 mg/l with 95 % confident interval ranging from 0,28 to 0,53 mg/l.

Since the quality criteria related to the stability of the test substance is not verified, care should be taken in the interpretation of the results.

ENTRY FORM

CAPNUM	LTR	DATE	CBI	CASNO	CONCERN	AI	SOLUBILITY
14121	a	0298		68425150	HIGH	NS	NS

CHEMNAME

TPS 32, static

PHYSTATE

NS

ORGANISM	DURATION	ENDPOINT	CODE	TOXVALUE	UNITS
Water flea, Daphnia magna	48h	EC50	<	0.31	mg/l

MELTINGPT

NS

COMMENTS

48h EC50>0.04mg/l
NOEC=1mg/l (nominal)
measured

ENTRY FORM

CAPNUM	LTR	DATE	CBI	CASNO	CONCERN	AI	SOLUBILITY
14121	a	0298		68425150	HIGH	NS	NS

CHEMNAME

Isooctyl thioglycolate, static

PHYSTATE

NS

ORGANISM	DURATION	ENDPOINT	CODE	TOXVALUE	UNITS
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Waterflea, Daphnia magna	48h	EC50		0.39	mg/l
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MELTINGPT

NS

COMMENTS

24hEC50=0.73mg/l
nominal